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ABSTRACT

The most common approach to self-management research has been to apply it to a specific target behavior, without attending to the generalizability of changes to other facets of one's life. A procedure for measuring self-management effectiveness under real world conditions was developed which emphasized the successful application of self-change procedures. The Self-Description Form (SDF) was field-tested on a sample of four groups of college students (N=214). Results indicated that normative self-management scores increased as level of education increased. Females had higher self-management scores than males except on the leisure scale. The reliability of the self-description scale was confirmed although validity efforts are still in the preliminary stages of analysis. When fully developed, the form may be useful in evaluating counseling and educational programs and in predicting an individual's future effectiveness in leisure, health, social and work activities. Several tables and figures are provided to illustrate SDF reliability and validity. (JAC)

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The Development of a Naturalistic Self-Management Inventory

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The Development of a Naturalistic Self-Management Inventory

The major purpose of this ongoing research has been to develop a procedure for measuring self-management effectiveness under real-world conditions. Although the term self-management sometimes refers only to the application of behavior modification strategies in one's personal life, our use of this concept also emphasizes the successful application of various self-change procedures. We have defined self-management in terms of the maintenance of appropriate behaviors, irrespective how those behaviors are being maintained.

The most common approach used in self-management research has been to apply a particular self-management strategy to a specific target behavior such as eating, smoking, exercising, and assertive responses. Self management effectiveness is usually measured in terms of baseline to treatment changes in the target behavior, with secondary attention devoted to the maintenance of that change. Usually no attention is given to the generalizability of the change to other facets of one's life. Thus, this approach provides a very restrictive perception of one's effectiveness as a self-manager.

Our approach involves the sampling of behavior successes in broad areas of one's life. The purpose of our instrument is to provide a generalized, naturalistic assessment of one's self-management effectiveness. Our immediate objective is to identify effective and ineffective self-managers under real world conditions. The long-range objective of our research is to identify the assumptions regarding personal causality which differentiate effective and ineffective self-managers.

Since it is not feasible to follow people around to observe their behavior in many different areas, we have attempted to deal with the concept of self-management effectiveness on a self-report basis. Self-management effectiveness

was defined in terms of the self-reported occurrence or non-occurrence of behaviors in different areas of life. The Self-description Form (SDF) includes 56 behaviors to be marked on a continuum from never to always. Embedded within the 56 items are four subscales, each containing 10 items. The remaining items of the inventory are filler and social desirability items. The four subscales relate to different areas of self-management: work, social, health, and leisure activities. The ten items which make up each subscale were selected from an initial pool of 163 items submitted to 20-45 mental health professionals (having at least a master's degree in an area related to mental health) for placement in the four primary categories plus a miscellaneous category. (See Table 1 for a listing of the 163 items.) A majority of these professionals had to agree that an item related primarily to a particular area (e.g., work, social) for the item to be placed in that category. The average agreement relative to the placement of the items in the subscales was .89.

Insert Table 1 about here

With the exception of the leisure activities subscale which contains only positive items, all subscales are comprised of an equal number of positive and negative items. The positive items indicate effective self-management in that area and the negative items ineffective self-management. At least 70% of the mental health professionals had to agree that regular participation in the target activity indicated either effective or ineffective living for the item to be considered positive or negative. The average agreement regarding the valence of the items included in the subscales was .87. Items in the various categoreis and their valences are listed in Table 2.

Insert Table 2 about here

Table 1

Judges Ratings (N=45)

	Area	Valence	Item
1.	.98W	.76+	Keeping a well organized work area
2.	.95W	.93-	Over-extending oneself in work commitments
3.	.50S	.80+	Speaking concisely in conversation
4.	.88W	.91-	Jumping from one task to another
5.	.80H	.80+	Jogging
6.	.86H	.51?	Eating sweets
7.	1.00H	.76+	Flossing one's teeth
8.	.80W	.91-	Putting off unpleasant, but necessary, tasks
9.	.73H	.67+	Swimming
10.	.84S	.89-	Rambling in conversation
11.	.69W	.96+	Being punctual in keeping appointments
12.	.98W	.79+	Filing work materials
13.	.45W	.98-	Forgetting commitments
14.	1.00W	.98-	Losing work related materials
15.	.68W	.93-	Oversleeping in the morning
16.	.96W	.98+	Attaining work goals
17.	.65S	.87+	Promptly returning borrowed materials
18.	.93W	.93-	Working without accomplishing much
19.	.96W	.50-	Barely meeting deadlines
20.	1.00W	.75+	Accomplishing work well in advance of deadlines
21.	.96W	.95-	Failing to meet deadlines
22.	.48W	.95+	Budgeting one's time
23.	.49H	.62?	Drinking coffee
24.	.76W	.59?	Making personal phone calls at work
25.	.41H	.73-	Biting one's fingernails
26.	.66S	.67+	Making personal phone calls at home
27.	.98W	.96+	Completing work assignments on time
28.	.56H	.98-	Using hard drugs
29.	.64S	.72-	Complaining
30.	.62S	.89+	Helping others
31.	.70L	.49+?	Playing cards
32.	1.00W	.98+	Setting work goals
33.	.44L	.56?	Keeping a diary
34.	.74S	.77+	Making humorous comments
35.	.91H	.98-	Eating excessively
36.	.89H	.93+	Getting adequate rest at night
37.	.89S	.60?	Talking a lot in group situations
38.	.45H	.84+	Keeping a clean living environment
39.	.76W	.91-	Running behind schedule
40.	.89H	.89-	Smoking cigarettes
41.	.89L	.51+	Looking at magazines
42.	.75H	.78+	Participating in vigorous physical activity
43.	.50S	.89+	Engaging in sexual interaction
44.	.98W	.82+	Making work related phone calls
45.	.78L	.49?	Watching television
46.	.49S	.67?	Dressing formally
47.	.90H	.73-	Eating junk food
48.	.76W	.56-	Abandoning work on specific tasks
49.	.33L	.58+	Doing things on the spur of the moment
50.	.79W	.58+	Working on one thing at a time
51.	.84L	.56+	Listening to the radio
52.	.86L	.68+	Attending movies
53.	.82S	.76-	Criticizing others
54.	.52H	.53-	Smoking marijuana
55.	.67W	.98-	Missing appointments
56.	.80S	.80+	Writing letters to friends
57.	.35L	.49?	Becoming slightly intoxicated
58.	.56S	.88+	Speaking fluently
59.	.75L	.50+	Attending sports events
60.	.82H	.73+	Using the bathroom
61.	.93H	.80+	Drinking water
62.	.89S	.87+	Complimenting others
63.	.57S	.54+	Dressing casually
64.	.68S	.57?	Speaking softly
65.	.86S	.71+	Smiling during conversation
66.	.80S	.64+	Touching others
67.	.69L	.66+	Reading fictional stories
68.	.80W	.84+	Reading course/professional related material

Table 1 (Cont.)

(N=20)

	Area	Valence	Item
69.	.72H	.53?	Going to bed early
70.	.51L	.64?	Sitting in easy chairs
71.	.47L	.60?	Whistling
72.	.73L	.52?	Reading the sports section of the newspaper
73.	.78L	.55?	Drawing pictures
74.	.81L	.49+	Doing nothing in particular
75.	.76H	.53+	Walking fast
76.	.77S	.60-	Arguing
77.	.75W	.96-	Sleeping during class or professional meetings
78.	.48H	.58?	Yawning
79.	.56H	.44?	Sleeping late
80.	.80S	.98+	Keeping one's word
81.	.47L	.64?	Doodling on paper
82.	.77H	.49?	Chewing sugarless gum
83.	.77S	.90+	Asking questions of others
84.	.85S	.98+	Initiating conversation
85.	.93L	.60+	Listening to stereo
86.	.53W	.71+	Doing housework
87.	.3[illegible]	.61+	Shopping
88.	.4[illegible]	.69+	Practicing meditation
89.	.81S	.98+	Listening closely to others comments
90.	.51H	.64?	Drinking tea
91.	.80S	.93+	Encouraging others
92.	.77H	.73+	Doing stretching exercises
93.	.93L	.56+	Reading entertainment section of newspapers
94.	.85S	.91+	Attending to others' positive characteristics
95.	.60H	.47+	Taking naps
96.	.89S	.84-	Interrupting others during conversation
97.	.70H	.53?	Drinking carbonated beverages
98.	.60L	.53+	Eating out
99.	.80L	.49+	Bird-watching
100.	.80S	.88+	Showing affection toward others
101.	.58S	.60+	Using profanity
102.	.53S	1.00-	Drinking to the point of intoxication
103.	1.00L	.75+	Painting pictures
104.	1.00L	.75+	Raising flowers
105.	.84L	.85+	Reading news magazines
106.	.89L	.65+	Watching sports events on TV
107.	.85S	.90-	Cutting in line
108.	.95S	1.00-	Dominating conversation
109.	.95H	.85-	Missing meals
110.	1.00L	.55+	Collecting stamps
111.	.95L	.80+	Yard work
112.	.79L	.80+	Watching news programs on TV
113.	.95L	.70+	Reading Poetry
114.	.95S	1.00-	Shouting in conversation
115.	.90S	.75-	Staring
116.	.85S	.80-	Frowning
117.	.61L	.60?	Suntanning
118.	1.00L	.84+	Playing a musical instrument
119.	.95L	.45-, .45?	Watching soap operas on TV
120.	.95L	.85+	Writing poetry
121.	.89S	.50-	Remaining quiet in group situations
122.	1.00L	.50+, .50?	Collecting coins
123.	.90W	.95+	Reading course/professionally related material
124.	.95H	.60-	Fasting
125.	.95L	.60+	Watching musical programs on TV
126.	.79L	.50+	Shopping without intending to buy anything in particular
127.	.95S	.95-	Criticizing others behind their back
128.	1.00L	.80+	Attending concerts
129.	.47L, .47H	.85+	Hiking
130.	1.00L	.81+	Gourmet cooking/baking
131.	1.00L	.84+	Woodworking
132.	.89S	.85-	Chewing food with mouth open
133.	.90L	.75+	Sewing

Table 1 (Cont.)

	Area	Valence	
134.	.95S	.80-	Reprimanding others
135.	.80L	.85+	Watching documentaries on TV
136.	.79L	.80+	Working in the yard
137.	1.00S	.90-	Bragging
138.	1.00S	.90-	Burping
139.	.89L	.60?	Watching movies on TV
140.	.95S	.75-	Looking away from the other person
141.	1.00L	.80+	Needlework activity (e.g., crocheting and knitting)
142.	.56H	.85+	Bicycling
143.	1.00L	.85+	Woodworking
144.	.95L	.80+	Photographic activity
145.	.72L	.85+	Dancing
146.	1.00S	.90-	Changing subject abruptly in conversation
147.	1.00H	.85-	Engaging in vigorous exercise when not in condition
148.	.95S	.65-	Focusing attention on oneself in conversation
149.	.80L	.60-	Watching TV programs depicting violence
150.	1.00L	.80+	Singing
151.	.95L	.90-	Camping
152.	1.00H	.90-	Crash dieting
153.	.95H	.80-	Gulping meals
154.	.84S	.95-	Making verbal threats
155.	.90S	.95-	Name-calling
156.	.50M	.80?	Doodling
157.	1.00L	.55L	Working crossword puzzles
158.	1.00L	.85+	Fishing
159.	1.00L	.55+	Playing electronic games
160.	1.00L	.95L	Engaging in a hobby
161.	.56S	.75?	Shifting feet
162.	.89S	.95-	Revealing something told in conference
163.	.83M	.90?	Crossing legs
164.	1.00L	.85+	Attending art and cultural exhibits
165.	.95S	.95-	Ignoring concerns expressed by others

AREA NOTATIONS

Work (W), Social (S), Healthy (H), Leisure (L)

VALENCE NOTATIONS

Generally indicative of effective living (+)

Generally indicative of ineffective living (-)

Not really indicative of either effective or ineffective living (?)

Item 103 was expanded to read "Creating art objects."

Items 105 and 113 were combined into "Reading leisurely (e.g., poetry, fiction, magazines)."

Items 111 and 136 were combined into one item, "Gardening/working in the yard."

Items 129, 151, and 158 were combined into one item, "Engaging in outdoor nature activities."

Table 2

Percentage of Agreement on Valence and Placement of Items in the Self-Description Form

WORK

Positive Items			Negative Items			
Item	Valence	Category Placement	Item	Valence	Category Placement	
2. Filing work materials	.79	.98	7. Over-extending myself in work commitments	.93	.95	
13. Attaining work goals	.98	.98	19. Jumping from one task to another	.91	.88	
24. Completing work assignments on time	.96	.98	30. Putting off unpleasant, but necessary, tasks	.91	.80	$\bar{P}$=.93 $\bar{V}$=.92
36. Setting work goals	.98	1.00	41. Losing work related materials	.98	1.00	
47. Reading course/professionally related materials	.84	.80	53. Failing to meet deadlines	.95	.96	

SOCIAL

8. Keeping my word	.98	.80	3. Rambling in conversation	.89	.84	
20. Initiating conversation	.98	.85	14. Criticizing others behind their back	.76	.82	
31. Listening closely to others' comments	.98	.81	25. Interrupting others during conversation	.84	.89	$\bar{P}$=.85 $\bar{V}$=.90
42. Encouraging others	.93	.80	37. Dominating conversation	1.00	.95	
54. Showing affection toward others	.88	.80	48. Reprimanding others	.80	.95	

Table 2 (cont.)

HEALTH

Positive Items				Negative Items			
	Item	Valence	Category Placement		Item	Valence	Category Placement
4.	Flossing my teeth	.76	1.00	9.	Using hard drugs	.98	.56
15.	Getting adequate rest at night	.93	.89	21.	Eating excessively	.98	.91
26.	Participating in vigorous physical exercise	.78	.75	32.	Smoking cigarettes	.89	.89
38.	Drinking water	.80	.93	43.	Eating junk food	.73	.90
49.	Doing stretching exercises	.73	.77	55.	Gulping meals	.80	.95

$\bar{P}$=.86
$\bar{V}$=.84

LEISURE TIME (all +'s)

5.	Creating art objects	.80	1.00
10.	Attending art and cultural exhibits	.85	1.00
16.	Playing a musical instrument	.84	1.00
22.	Attending concerts	.80	1.00
27.	Writing creatively (e.g., poetry, short stories)	.85	.95
33.	Reading leisurely (e.g., poetry, fiction, magazines)	.74	.83
39.	Gardening/Working in the yard	.80	.87
44.	Engaging in outdoor nature activities	.85	.81
50.	Engaging in a hobby not otherwise listed in questionnaire	.95	1.00
56.	Dancing	.85	.72

$\bar{P}$=.92
$\bar{V}$=.83

Our definition of self-management effectiveness is obviously based on the value judgments of our mental health reference group. It is possible that a different set of mental health professionals might reach somewhat different conclusion about what behaviors are effective or ineffective. However, our reference group represented all the major therapeutic orientations and is quite typical of the diversity within the mental health profession.

In addition to evaluating self-management effectiveness by norms from our mental health reference group, we also deemed it important to examine one's effectiveness as a self-manager from his/her personal perspective. Consequently, each respondent in the total sample was asked to indicate whether his/her level of involvement in a particular behavior contributed to good feelings, bad feelings, or neutral feeling about him/herself. The respondent indicated his personal evaluation by putting a +, -, or 0 in the appropriate column following each behavior. Let us emphasize that the respondent was not asked to evaluate the behavior but rather his/her level of participation in that behavior. Thus one might indicate that s/he rarely participates in a behavior but still give that participation level a plus rating. The respondent indicated participation level by checking one of the following categories for each behavior: never, rarely, periodically, regularly, and always. Definitions for these time concepts are provided in the instructions for the inventory (see Table 3).

Insert Table 3 about here

Like all self-report inventories, the Self-description Form is plagued with the possibility of subject falsification. We assumed that the tendency to represent oneself in an unduly positive light might be present among some

Table 3

Identification No._____

Self-Description Form

In the course of your personal and professional activities each week, you probably engage in many different behaviors. We want you to indicate how frequently you engage in each of the behaviors listed below by using the following distinctions.

Never - Under no circumstances do you ever engage in the behavior.

Rarely - You engage in the behavior a few times a year.

Periodically - You engage in the behavior a few times a month.

Regularly - You engage in the behavior several times a week.

Always - You engage in the behavior every time an opportunity presents itself.

Circle the number in the column that best corresponds to your level of participation in each behavior.

We would also like for you to indicate how your level of participation in each behavior (ranging from never to always) makes you feel about yourself. If your level of participation contributes to good feelings about yourself, circle the + in the column labeled "Value"; if your level of participation contributes to bad feelings, circle the - in the "Value" column; and if your level of participation has no effect on the way you feel about yourself, circle the 0 in the "Value" column.

	Never	Rarely	Period-ically	Regular-ly	Always	Value
1. Drinking coffee	0	1	2	3	4	- 0 +
2. Filing work materials	0	1	2	3	4	- 0 +
3. Rambling in conversation	0	1	2	3	4	- 0 +
4. Flossing my teeth	0	1	2	3	4	- 0 +
5. Creating art objects	0	1	2	3	4	- 0 +
6. Speaking softly	0	1	2	3	4	- 0 +
7. Over-extending myself in work commitments	0	1	2	3	4	- 0 +
8. Keeping my word	0	1	2	3	4	- 0 +
9. Using hard drugs	0	1	2	3	4	- 0 +
10. Attending art and cultural exhibits	0	1	2	3	4	- 0 +
11. Donating to all good causes	0	1	2	3	4	- 0 +
12. Going to bed early	0	1	2	3	4	- 0 +
13. Attaining work goals	0	1	2	3	4	- 0 +
14. Criticizing others behind their back	0	1	2	3	4	- 0 +

participants. We checked out this possibility by including a social desirability scale in the inventory and by doing a comparison between the participants' responses and others' perception of their behaviors.

The social desirability scale was comprised of behaviors that most of us seldom exhibit, e.g., donating to all good causes, aiding stranded motorists on the interstate, eating only nutritious food, helping anyone needing help, exercising more than twice a day, and stopping a mugging. The higher the score on this scale, the greater the likelihood of falsification on the other items in the inventory.

Another way to determine if a participant was representing him/herself accurately was to compare the participant's own rating with someone else's rating of the participant. An individual who knew the subject well (such as spouse, room-mate, or co-worker) was asked to fill out the inventory as s/he perceived the subject. This individual's rating was placed in a sealed envelope and returned to the experimenters withouth the participant's ever seeing those ratings.

To this point, the Self-description Form has been administered to 214 participants. The participants came from 4 groups: (1) college freshmen (n=57), (2) 2nd and 3rd year nursing students (n=95), (3) college upper classmen (n=25), and (4) graduate students (n=37). Only the graduate students were used in the test-retest reliability checks (2-3 weeks apart); only the upper classmen and graduate students were used in the social comparison check; and only the nursing students were used in the comparison of work self-management and work ratings by supervisors. Sociodemographic data on the sample are presented in Table 4.

The SDF is scored by giving 0 (never) to 4 (always) weighting for the designated responses in the four subscales. For the work, health, and social scales, the weighting is added for positive items and subtracted for negative items. The score on each scale is the positive credit minus the negative credit.

Table 4

Sociodemographic Data N=214

Group	Frequency	Per Cent
College Freshmen	57	27
Nursing Students	95	44
College Upperclassmen	25	12
Graduate students	37	17
Sex		
Female	166	79
Male	44	21
Age		
13-18 years	36	17
19-24 years	119	57
25-30 years	30	14
31-35 years	15	7
35 + years	10	5
Employment		
Student,not employed	95	45
Employed full-time	19	9
Employed part-time	95	45
Income		
$5,000 or less	140	70
$5,000 - 9,999	24	12
$10,000 - 14,999	17	9
$15,000 - 24,999	14	7
$25,000 +	5	3

Thus the scores can range from +20 to -20 on these three scales. Since the leisure scale is comprised only of positive items, the total credit for items in this scale is divided by two to make the score more comparable to scores on the other scales. The scores on the leisure scale can range from +20 to 0.

Results of field testing

Distribution of scale scores

Means and standard deviations for scores computed from SDF scores are presented in Table 5. The goal of roughly normally distributed scale scores was achieved. The discrepancy between scale means and medians was negligible, ranging from 0.1 to 0.6 points. Standard deviations were approximately one-fifth to one-sixth of scale ranges.

As anticipated, highest scores were earned by participants on self-management of leisure activities. However, this trend may partially be attributed to the difference in scoring procedures of the leisure sub-scale. Social activities received second highest scores, followed by work and then health behaviors. Similar patterns were evident on the normative evaluations (based on judgments of mental health professionals) and the personal evaluatioons (based on judgments of subjects themselves). Since our sample consisted entirely of students, we suspect that the low scores on health may be due to the erratic eating, sleeping, and exercise habits which often characterize college students.

When the four subsamples were compared, normative self-management scores increased as level of education increased. Freshman students had the lowest means on total self-management and on each of the subscales, while graduate students had the highest means on all normative subscales. However, nursing students were more satisfied with their level of participation in activities than any other group, scoring higher on total personal evaluation and on three of the four subscales (the one exception being the social subscale). The group most satisfied with the level of social participation was the freshmen. These results are summarized in Table 6.

Table 5

Means and Standard Deviations for Self-Description Form Scales

Scale	Scoring Range	Mean	S.D.
Total Self-Management	-1 to 41	22.9	7.9
Work subscale	-4 to 15	4.2	3.4
Social subscale	0 to 15	6.4	3.0
Health subscale	-7 to 14	3.8	3.9
Leisure subscale	2 to 15.5	8.4	2.6
Total Personal Evaluation	-15 to 33	10.4	7.8
Work subscale	-6 to 10	2.3	2.8
Social subscale	-7 to 10	2.6	2.8
Health subscale	-6 to 10	1.7	2.9
Leisure subscale	-6 to 10	3.8	3.4

Possible range for Total Self Management: -60 to +80

Possible range for Work, Social, and Health subscales: -20 to +20

Possible range for Leisure subscale: 0 to 20

Possible range for Total Personal Evaluation: -40 to +40

Possible range for Work, Social, Health, and Leisure Personal Evaluations: -10 to +10

Table 6

Comparison of Group Means

Freshmen (n=57)		Nursing students (n=95)	Upperclassmen (n=25)	Grad. Students (n=35)
Total self-management	21.2	22.8	22.8	26.2
Work subscale	2.9	4.5	4.2	5.5
Social subscale	6.6	6.3	6.0	6.9
Health subscale	3.2	3.5	4.7	5.0
Leisure subscale	8.5	8.4	7.8	8.8
Total Personal eval.	10.5	11.9	7.2	9.5
Work subscale	1.5	3.2	1.7	2.1
Social subscale	3.5	2.7	1.3	2.2
Health subscale	1.96	1.98	1.2	1.1
Leisure subscale	3.5	4.1	3.0	4.2

Comparison by Gender

Females		Males	
Total self-management	23.3	Total self-management	21.9
Work subscale	4.5	Work subscale	3.3
Social subscale	6.5	Social subscale	6.3
Health subscale	4.0	Health subscale	3.5
Leisure subscale	8.4	Leisure subscale	8.8
Total Personal eval.	10.4	Total Personal eval.	10.9
Work subscale	2.6	Work subscale	1.4
Social subscale	2.6	Social subscale	3.0
Health subscale	1.4	Health subscale	2.8
Leisure subscale	3.8	Leisure subscale	3.7

With the leisure scores excluded from the analysis, a Lindquist Type I design was used in determining the significance level of differences just described. A non-significant interaction in combination with two significant main effects led to overall significant superiority of Group IV over Group I and significant superiority of the social scores over the work and health scores, which did not differ significantly.

A Lindquist Type I analysis of the Personal Evaluation Scores produced a significant interaction between groups and subscales. A Tukey-HSD followup on that interaction showed that Leisure scores were generally superior to the other subscale scores except for the University upperclassmen where the subscale scores did not differ. A comparison of the Groups at the different subscale levels showed that the Graduate Students were superior to the Freshmen in their work satisfaction and the Freshmen were superior to the University Upperclassmen in their social satisafaction. All other group differences at the subscale levels proved non-significant.

Females had higher normative self-management scores than males on all subscales except the leisure scale, but the personal evaluations of females were higher on only two subscales.

Groups scoring high and low on self-management were also selected for comparison. High scorers were those subjects whose total self-management scores were equal to or greater than one standard deviation above the mean ($\geq$30.8, n = 39), and low scorers were those whose scores were equal to or less than one standard deviation below the mean ($\leq$15.03, n = 40). The pattern of scores for these two groups is presented in Figure 1. Differences of the greatest magnitude were evident on the health and work subscales.

It is evident from the pattern of scores depicted in Figure 1 that effective self-managers have achieved a more optimum balance across the four major aspects of life than the ineffective self-managers. This finding is consistent with the proposal of Williams and Long (1983) that a self-management approach can result in a higher degree of control over all aspects of one's life style. Their philosophy holds that the impact of self-management can be felt most keenly in the multiplicity of everyday experiences of individuals. When work and health are managed more effectively, the social and leisure components of life are enhanced. Not only were high scorers managing important areas of their lives more effectively, but their self-evaluations were also more positive. The mean personal self-evaluation score for high scorers was 16.65, as compared to 5.79 for low scorers.

Reliability

Findings regarding the test-retest reliability of the Self-Description Form are summarized in Table 7 and indicated two clear trends. Correlation coefficients for the total self-management scale and for each of the four subscales well exceeded the .50 standard for reliability coefficients suggested by Helmstadter (1973). The correlation for total self-management was .82, and correlations for subscales ranged from .61 to .86, indicating that scale scores are sufficiently reliable for the purposes of group comparisons.

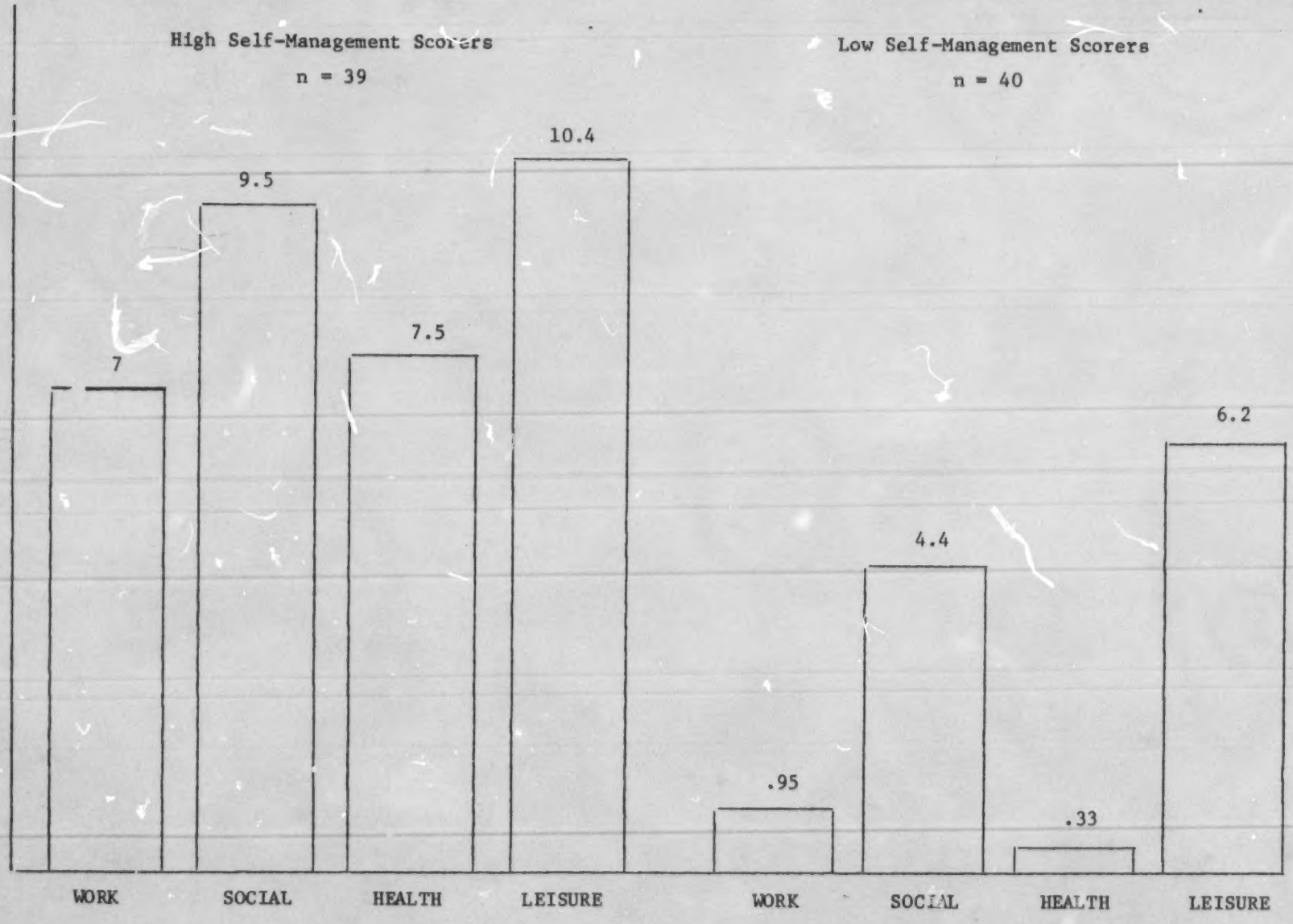

Figure 1. Pattern of Scores for High and Low Self-Managers

Table 7

Test-Retest Reliability Coefficients*

Scale	Test-retest coefficient	Probability
Total Self-Management	.82	.0001
Work subscale	.61	.0004
Social subscale	.72	.0001
Health subscale	.86	.0001
Leisure subscale	.76	.0001
Total Personal Evaluation	.50	.0077
Work subscale	.19	.3231
Social subscale	.47	.0122
Health subscale	.47	.0125
Leisure subscale	.62	.0004

*Pearson Product Moment Correlations

Reliability was not as high for personal evaluation scores, although the .50 standard was achieved for total personal evaluation. Correlation was highest for the leisure subscale (.62) and just under .50 for the social and health subscales. However, the test-retest reliability of the work subscale was very low. This probably indicates actual change in valuing of certain work-related items due to escalating pressures on these students as the quarter progressed. It is reasonable to speculate that inefficient study habits were devalued, while productive behaviors were valued more highly.

Another way we examined reliability was by determining the extent to which an individual's high and low sub-scale scores remained consistent from pre to post. (Because the leisure scores may have been somewhat inflated by the different scoring procedure for that sub-scale, they were excluded from this analysis.) After ties were eliminated from the comparison, 15 matches and 9 non-matches remained for the highest pre-post subscale score, whereas 18 matches and 6 non-matches remained for the lowest pre-post sub-scale score. A sign test of the proportion of matches proved significant for both the high matches ($p<.05$) and low matches ($p<.005$).

Validity

The Self-Description Form is assumed to have adequate face validity by virtue of the high degree of consensus among the mental health professionals regarding the placement and valence of the test items. Because there are no similar measures of self-management effectiveness, criterion validation was not possible. Consequently, we used four other methods of examining the validity of our instrument.

The first method consisted of examining the inter-relationships among total self-management and the various subscales. Results of this correlational analysis appear in Table 8 and indicate that each subscale is highly correlated (>.50) with Total Self-Management and that the four subscales are not highly correlated with each other. The integrity of the subscales thus appears to be valid, i.e., they are independent of one another, and each scale measures the construct it was intended to measure to a greater extent than it measures other constructs.

A second approach to validity involved examining the relationship of normative self-management scores (based on judgments of mental health professionals) and personal evaluation scores (based on judgments of subjects themselves). We predicted that these scores should be positively correlated, but not too highly correlated, because different views of the behaviors are being tapped. Results of this correlational analysis appear in Table 9 and generally conform to our prediction.

Table 8

Correlation Matrix

Relationships Among Total and Subscale Scores (N=212)

Normative Self-Management

	Total	Work	Social	Health	Leisure
Total					
Work	.63				
Social	.57	.17			
Health	.68	.18	.14		
Leisure	.52	.11	.15	.15	

Personal Evaluation

	Total	Work	Social	Health	Leisure
Total					
Work	.61				
Social	.67	.25			
Health	.69	.25	.35		
Leisure	.66	.15	.21	.25	

Table 9

Relationship of Normative Self-Management Scores and Personal Evaluation Scores

Scales	Correlation (Pearson r's)	Probability	N
Total Normative Self-Management and Total Personal Evaluation	.47	.0001	191
Work Normative and work personal evaluation	.50	.0001	191
Social normative and social personal evaluation	.27	.0002	191
Health normative and health personal evaluation	.37	.0001	191
Leisure normative and leisure personal evaluation	.58	.0001	191

Relationship of Normative Self-Management Scores and Personal Evaluation Scores by Group

Group 1 (Freshmen)	Total Normative Self-Management and Total Personal Evaluation	.52	.0001	55
	Work normative/work personal	.49	.0002	55
	Social normative/social personal	.25	.0614	55
	Health normative/health personal	.41	0017	55
	Leisure normative/leisure personal	.61	.0001	55
Group 2 (Nursing Students)	Total Normative Self-Management and Total Personal Evaluation	.46	.0001	77
	Work normative/work personal	.37	.0008	77
	Social normative/social personal	.28	.0151	77
	Health normative/health personal	.32	.0047	77
	Leisure normative/Leisure personal	.57	.0001	77
Group 3 (Upper Classmen)	Total Normative Self-Management and Total Personal Evaluation	.58	.0026	25
	Work normative/work personal	.66	.0003	25
	Social normative/social personal	.32	.1238	25
	Health normative/health personal	.65	.0005	25
	Leisure normative/leisure personal	.45	.0239	25
Group 4 (Graduate Students)	Total Normative Self-Management and Total Personal Evaluation	.52	.0005	34
	Work normative/work personal	.61	.0001	34
	Social normative/social personal	.25	.1532	34
	Health normative/health personal	.50	.0024	34
	Leisure normative/leisure personal	.68	.0001	34

A third approach to validity was the comparison of participants' self-ratings with ratings by significant others (spouses, room-mates, co-workers) who completed identical questionnaires. The only significant correlation was on ratings of health behaviors. This approach obviously did not fulfill our expectations, for reasons which are unclear. However, this method was used with only a small number (n=27) of the total sample, and it is possible that participants did not give the forms to persons who really knew their behavior patterns well.

The final attempt to ascertain validity involved comparing self-management scores for the nursing students with their academic averages and clinical performance grade averages. Correlations were only modest: .38 for the work subscale with academic averages, and .32 for the work subscale with clinical averages.

The issue of social desirability did not turn out to be as problematic as anticipated originally. We had designated a score of 18 a priori as a cutoff point for eleiminating subjects, but no subject scored that high on the social desirability subscale. Scores ranged from 1-17, with a mean of 8.4, median of 8, mode of 7, and standard deviation of 2.9.

Another indication that the participants were not inflating their scores comes from the comparison between self-ratings and the ratings by significant others. With the exception of the leisure sub-scale (which may be the least value laden of any subscale), the other-scores were higher than the self-scores. The total other mean was 26.19 whereas the total self mean was 22.93. Despite the confidentiality of ratings by others, these ratings may have been affected by the same phenomenon that is so often reflected in recommendations.

In summary, our efforts to ascertain the validity of the Self-Description Form should be considered preliminary at this point. Content and construct validity appear adequate, but further work is necessary to establish social validity of the instrument. We plan to enlarge our data pool with samples drawn from both professional populations (i.e., successful individuals presumed to be effective self-managers) and clinical populations (i.e., substance abusers and others presumed to be ineffective self-managers) in the near future. Additionally, concurrent validity will be explored by correlating subscales of our instrument with appropriate subscales of widely used personality inventories such as the 16 PF.

A major facet of our work that remains to be done is to determine the contributions of the individual items to the various subscales and total self-management score. As an example, we have examined the contributions of two items from the Health Scale: Item 26--Participating in vigorous physical activity; and Item 32--smoking cigarettes. These items were chosen because one represents a deliberate attempt to improve health and the other a flagrant abuse of health. We wondered what these two items by themselves might tell us about a person's self-management style.

While the specific contributions of these items are described in Table 10, the general indication is that both items are substantially correlated with the Health subscale score (exercise + and smoking -) and to a lesser, but nonetheless significant, degree with the total score (exercise + and smoking -). The smoking item was not correlated with any other subscale score besides Health, whereas the exercise item was modestly correlated with the work and leisure scores also. This pattern did not surprise us because we have strongly believed that exercise contributes to work productivity and leisure activities. Somewhat surprisingly, the smoking and exercise items

Table 10

Correlations of Normative Scores for Exercise and Smoking Items with Other Aspects of the Self-Description Form*

Exercise (Item 26)		Smoking (Item 32)	
Normative	Personal	Normative	Personal
1. Total Self-management r=.2617 (p<.0001)	1. Total Self-management r=.17 (p<.005)	1. Total Self-management r=-.15 (p<.005)	1. Total Self-management r=-.06
2. Health r=.3513 (p<.0001)	2. Health r=.2625 (p<.0001)	2. Health r=-.3085 (p<.0001)	2. Health r=-.09
3. Work r=.11825 (p<.05)	3. Item 26 r=.4849 (p<.0001)	3. Work r=-.02	3. Item 32 r=-.4927 (p<.0001)
4. Social r=-.05		4. Social r=-.002	
5. Leisure r=.21 (p<.0001)		5. Leisure r=-.007	
		6. Item 26 r=-.04	

*Most of these correlations (Kindall Tau) are based on Ns above 200.

did not correlate with each other (we had anticipated a negative relationship). Thus, you can't predict people's smoking habits by knowing their exercise habits or vice versa. However, the personal evaluation of these items indicates that smokers tend to feel very bad about their smoking and exercisers very good about their exercise. We suspect that in many instances individuals may use exercise to negate bad feelings about smoking.

Conclusion

When fully developed and standardized, the Self-Description Form could be quite useful in evaluating the effectiveness of a variety of counseling and educational programs. It should also be predictive of one's future effectiveness in the four broad areas assessed by the instrument. Thus, to the extent that it is important and useful to determine how one will function with respect to work, social, health, and leisure time dimensions of life, this inventory could make a practical contribution in the helping professions.

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